

REMARKS

The application presently contains Claims 1-27. In the Office Action mailed 02 December, 2005 the Examiner required restriction to one of the following groups under 35 U.S.C.121 (*see* instant Office Action, page 2):

I: Claims 1-9, drawn to an isolated nucleic acid comprising a sequence, wherein said isolated nucleic acid is a hybrid promoter and wherein said isolated nucleic acid further comprises a minimal CaMV promoter, classified in class 536, subclass 24.1, for example.

II: Claims 1-8, drawn to an isolated nucleic acid comprising a sequence, wherein said isolated nucleic acid is a hybrid promoter and wherein said isolated nucleic acid further comprises a minimal rice promoter, classified in class 536, subclass 24.1, for example.

III: Claims 1-2 and 10-13, drawn to an isolated nucleic acid comprising a sequence, wherein said isolated nucleic acid is a promoter, classified in class 536, subclass 24.1, for example.

IV: Claims 14-15, drawn to a cell and plant comprising a DNA construct, classified in class 800, subclass 298, for example.

V: Claims 16-21, drawn to a method of regulating transcription of a DNA sequence comprising operably linking the DNA sequence to a promoter, classified in class 435, subclass 91.4, for example.

VI: Claims 16 and 22, drawn to a method of regulating transcription of a DNA sequence comprising operably linking the DNA sequence to a minimal promoter, classified in class 435, subclass 91.4, for example.

VII: Claim 23, drawn to a method of making a transgenic plant, classified in class 800, subclass 287, for example.

VIII: Claim 24, drawn to a method of isolating at least two 5' regulatory sequences, classified in class 435, subclass 6, for example.

In the instant Office Action, the Examiner also required under 35 U.S.C.121 restriction to a single nucleic acid sequence if any of I-VII is elected.

Applicants respectfully traverse the restriction requirement, and provisionally elect III for further prosecution. In response to the sequence election requirement, Applicants also provisionally elect, with traversal, SEQ ID NO: 90 for further prosecution.

Applicants submit that the complete examination of the application would be handled most expeditiously by treating all of the pending claims as a single entity. As Section 803 of the MPEP directs, “[i]f the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to distinct or independent inventions.” Applicants respectfully submit that the Examiner has not shown that a search and examination of the entire application would cause a serious burden. Rather, a serious burden would arise if the application were restricted.

Applicants submit that restriction to a single nucleotide sequence is improper, and furthermore submit that no serious burden would result by the search and examination of all disclosed nucleotide sequences, as all sequences are members of the same class of gene regulatory elements, specifically, elements regulating male reproductive tissue genes identified from *Zea mays*.

Furthermore, Applicants submit that the restriction requirement is inappropriate. For example, Applicants contend that, at least, I-III should be examined simultaneously, because the elected sequence exhibits promoter structure and function whether or not it also comprises other promoter sequences (i.e., a hybrid promoter). Furthermore, we traverse the requirement for an election for the hybrid promoter to comprise only one of either a rice actin promoter or a minimal CaMV promoter, as in either case the hybrid promoter also comprises the original disclosed promoter sequence.

Applicants respectfully traverse each of the arguments Examiner has put forth regarding the distinct patentability of I – VIII.

1. We traverse the Examiner's assertion in the instant Restriction Requirement (*see* Page 4 Paragraph 2) that I and II-IV and VII-VIII are distinct. The examiner states that:

“The isolated nucleic acid of Invention I differs structurally from the isolated nucleic acids of Inventions II and III.”

We traverse because the structure of a hybrid promoter comprising the disclosed promoter sequence and further comprising another promoter, i.e. CaMV minimal promoter or rice actin promoter, maintains the same double helix molecular structure *in situ*, as well as promoter function, that said disclosed promoter sequence exhibits alone.

Moreover, a search for Claims 14 and 15 (IV), which encompass cells and plants comprising a sequence, would also include a search of the sequence of Claim 1 (III).

Accordingly, examination of at least I -III and preferably I, II, III and IV together would pose no

undue burden to the Examiner. We traverse the Examiner's claim in the instant Restriction Requirement (*see* Page 4) that:

“The isolated nucleic acid of Invention I is classified differently from, and differs in structure, function and use from, the cell and transgenic plant of Invention IV”

as the claims of IV are drawn to the identical sequences, and functions of said sequences, of I.

Applicants respectfully request clarification of the elements of VIII, which references solely Claim 24. There are 27 total claims in the application, Claims 25-27 are dependent on Claim 24. The Examiner asserts that:

“The isolated nucleic acid of Invention I...is not used in...the methods of Inventions VII-VIII”

Applicant respectfully traverses. The nucleic acids of I are indeed used in the method of VII (Claim 23) as they comprise the identical nucleic acid sequences, and furthermore are indeed produced by the methods of VIII (Claim 24).

2. Applicants respectfully traverse the examiner's assertion that: III and V-VI are related as product and process of use (*see* Page 4 Paragraph 3). The Examiner states that:

“In the instant case the isolated nucleic acid of Invention I can be used in a materially different process of using that product, such as a Southern hybridization method”

The nucleic acid sequence of I is disclosed as “being capable of regulating the transcription of an operably linked DNA sequence” (*see* Application Claim 1). V-VI, encompassing Claims 16-22, are specifically related to the identical sequences disclosed in Group I, and further describe the utility of the sequence, i.e. that of regulating the transcription of a DNA sequence, as claimed in Group I. By definition, a promoter is a molecule that is capable of regulating the transcription of

an operably linked DNA sequence. Applicants assert that the claims described in I, V and VI are interdependent upon one another and part of the same invention, as evidenced by the common function of gene regulation activity of those particular disclosed nucleic acid sequences.

3. Applicants respectfully traverse the Examiner's assertion that II and II-IV and VII-VIII are distinct inventions (*see* Page 5 Paragraph 1). The Examiner states that:

"The isolated nucleic acid of Invention II is classified differently from, and differs in structure, function and use from, the cell and transgenic plant of Invention IV."

The elements of IV (Claims 14-15), claim a cell or plant comprising the exact nucleic acid sequences disclosed in II; therefore Applicants maintain that said isolated nucleic acid of II is the same as that in IV, and thus does not constitute a separate invention. A cell or plant comprising said isolated nucleic acid sequence is an example of a novel utility of said sequence.

The Examiner further asserts that:

"The isolated nucleic acid of Invention II is classified differently from, and is not used in or produced by, the methods of Inventions VII-VIII."

Applicant respectfully traverses. The nucleic acids of II are indeed used in the method of VII (Claim 23) as they comprise the identical nucleic acid sequences, and furthermore are indeed produced by the methods of VIII (Claim 24).

4. Applicants respectfully traverse the Examiner's assertion that II and V-VI are distinct inventions (*see* Page 5 Paragraph 2). The Examiner states that:

"In the instant case the isolated nucleic acid of Invention II can be used in a materially different process of using that product, such as a Southern hybridization method"

The nucleic acid sequence of II is disclosed as “being capable of regulating the transcription of an operably linked DNA sequence” (*see* instant Application, Claim 1). V-VI, encompassing Claims 16-22, are specifically related to the identical sequences disclosed in I, and further describe the utility of the sequence, i.e. that of regulating the transcription of a DNA sequence, as claimed in I. By definition, a promoter is a molecule that is capable of regulating the transcription of an operably linked DNA sequence. Applicants assert that the claims described in II, V and VI are interdependent upon one another and part of the same invention, linked by the common function of gene regulation activity for those particular disclosed nucleic acid sequences.

5. Applicants respectfully traverse the Examiner’s assertion that III and VI and VII-VIII are distinct inventions (*see* Page 5 Paragraph 3). The Examiner states that:

“The isolated nucleic acid of Invention III is classified differently from, and differs in structure, function and use from, the cell and transgenic plant of Invention IV.”

The elements of IV (Claims 14-15), claim a cell or plant comprising the exact nucleic acid sequences disclosed in II; therefore, Applicants maintain that said isolated nucleic acid of III is the same as that in IV, and thus does not constitute a separate invention. A cell or plant comprising said isolated nucleic acid sequence is an example of a novel utility of said sequence.

The Examiner further asserts that:

“The isolated nucleic acid of Invention III is classified differently from, and is not used in or produced by, the methods of Inventions VII-VIII.”

Applicant respectfully traverses. The nucleic acids of III are indeed used in the method of VII (Claim 23) as they comprise the identical nucleic acid sequences, and furthermore are indeed produced by the methods of VIII (Claim 24).

6. Applicants respectfully traverse the Examiner's assertion that III and V-VI are distinct inventions (*see* Page 5 Paragraph 4). The Examiner states that:

“In the instant case the isolated nucleic acid of Invention III can be used in a materially different process of using that product, such as a Southern hybridization method”

The nucleic acid sequence of III is disclosed as “being capable of regulating the transcription of an operably linked DNA sequence” (*see* Application Claim 1). V-VI, encompassing Claims 16-22, are specifically related to the identical sequences disclosed in I, and further describe the utility of the sequence, i.e. that of regulating the transcription of a DNA sequence, as disclosed in III. By definition, a promoter is a molecule that is capable of regulating the transcription of an operably linked DNA sequence. Applicants assert that the claims described in III, V and VI are interdependent upon one another and part of the same invention, linked by the common function of gene regulation activity for those particular disclosed nucleic acid sequences.

7. Applicants respectfully traverse the Examiner's assertion that IV and V-VI and VIII are distinct inventions (*see* Page 6 Paragraph 2). The Examiner states that:

“The cell and plant of Invention IV are classified differently from, and are not used in or produced by, the methods of Inventions V-VI and VIII.”

The cells and plants disclosed in IV (Claims 14 and 15), and the methods disclosed in V-VI and VIII (Claims 16-22, 24) are interdependent in that they all comprise the same nucleic acid sequence which has the identical function, i.e. that of regulating the transcription of an operably linked DNA sequence. The cells and plants in IV thus may comprise the molecules of V-VI, produced by VII and identified by VIII.

8. Applicants respectfully traverse the Examiner's assertion that VII and IV are related as process of making and product made (*see* Page 6 Paragraph 3). The Examiner states that:

"In the instant case the transgenic plant can be made by another and materially different process, such as by transgenic breeding."

Applicants respectfully maintain that a cell (Claim 14) or a plant (Claim 15) comprising a DNA construct of IV may, by definition, only be produced by a transformation method as described in VII (Claim 23). Applicant directs the Examiner to the Specification (*see* instant Application, page 10 line 29), with particular attention to the italicized text:

"Transformed", "transfected", or "transgenic" refers to a cell, tissue, organ, or organism into which has been introduced a foreign nucleic acid, such as a recombinant vector. Preferably, the introduced nucleic acid is integrated into the genomic DNA of the recipient cell, tissue, organ or organism such that the introduced nucleic acid is inherited by subsequent progeny. *A "transgenic" or "transformed" cell or organism also includes progeny of the cell or organism and progeny produced from a breeding program employing such a "transgenic" plant as a parent in a cross and exhibiting an altered phenotype resulting from the presence of a recombinant construct or vector.*"

The genomic insertion of a transgene is unique and that uniqueness is transferred into the progeny of a cross.

9. Applicants respectfully traverse the Examiner's assertion that V and VI-VIII are distinct inventions (*see* Page 6 Paragraph 4). The Examiner states that:

"The method of invention V utilizes different materials than the method of invention VI. The method of Invention V is classified differently from, and utilizes different materials and different method steps than the methods of Inventions VII-VIII"

Applicants submit that the methods of V (Claims 16-21), which detail the regulation of expression of an operably linked DNA sequence, utilize the identical materials as the methods of VI and VII (the same nucleic acid sequences). Moreover, the materials (nucleic acid sequences)

utilized in V, VI and VII are produced by the method disclosed in VIII (Claim 24). Each of these method claims are individual steps of the same invention, i.e. the production and usage of the disclosed nucleic acid sequences, and thus may be considered to be the same invention.

10. Applicants respectfully traverse the Examiner's assertion that VI and VII-VIII are distinct inventions (*see* Page 6 Paragraph 5). The Examiner states that:

“The method of Invention VI is classified differently from, and utilizes different materials and different method steps than the methods of Inventions VII-VIII”

Applicants submit that the methods of VI (Claims 16 and 22), which detail the regulation of expression of an operably linked DNA sequence via a promoter (Claim 16) or a hybrid promoter comprising said same promoter (Claim 22), utilize the identical materials as the methods of VII and VIII (the same nucleic acid sequences). Moreover, the materials (nucleic acid sequences) utilized in VI and VII are produced by the method disclosed in VIII (Claim 24). Each of these method claims are individual steps of the same invention, i.e. the production and usage of the disclosed nucleic acid sequences, and thus may be considered to be the same invention.

11. Applicants respectfully traverse the Examiner's assertion that VII and VIII are distinct inventions (*see* Page 6 Paragraph 6). The Examiner states that:

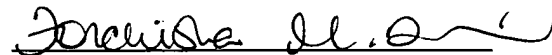
“The method of Invention VII is classified differently from, and utilizes different materials and different method steps than the methods of Invention VIII”

The materials (nucleic acid sequences) utilized in VII are produced by the method disclosed in VIII (Claim 24). Each of these method claims are individual steps of the same invention, i.e. the production and usage of the disclosed nucleic acid sequences, and thus may be considered to be the same invention.

Based upon the arguments set forth, Applicants submit that the restriction requirement is improper and therefore should be withdrawn. Applicants traverse the restriction requirement for a single sequence election, and provisionally elect SEQ ID NO: 90 for further prosecution. In light of the additional restriction requirement for the claims, Applicants traverse, and respectfully request reconsideration of all claims as written, drawn (with traversal) to the elected sequence SEQ ID NO: 90 as required by the instant Office Action. Applicants provisionally, and with traversal, elect III (with traversal drawn to SEQ ID NO: 90 as required by the instant Office Action) for further prosecution.

The Examiner is invited to contact the undersigned patent attorney at (314) 694-3151 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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